

B.S. in Civil Engineering

Catalog Year 2025-26

Below is the *advised sequence* of courses for this degree program on Main Campus as of 1/14/2025.

Official degree requirements and course prerequisites are in the University General Catalog; prerequisites are subject to change.

| Course Number and Title | Units | Prerequisites/Enrollment Requirements |
|---------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1st Semester | | |
| MATH 122A/B or MATH 125 Calculus I with Applications | 5/3 | Appropriate Math Placement |
| *CHEM 151 Chemical Thinking I or CHEM 161/163 | 4 | Appropriate Math Placement |
| ENGL 101 or 107 or 109H First-Year Composition | 3 | |
| ENGR 102A/102B Introduction to Engineering or ENGR 102 | 3 | <u>ENGR102A & 102B</u> : Pre- or Co-requisite of MATH 112 or higher; First-Year Status; College of Engineering Major; must not have taken ENGR102 |
| UNIV 101 Intro to the General Education Experience | 1 | |
| Semester Total | | 14/16 |
| 2nd Semester | | |
| MATH 129 Calculus II | 3 | MATH 122B or 125 with C or higher |
| MCB 181R/L Introductory Biology I or GEOS 251 Physical Geology | 4 | MCB 181R/L: Appropriate Math Placement |
| *PHYS 141 Introductory Mechanics or PHYS 161H | 4 | MATH 122B, 125 or Appropriate Math Placement Level |
| ENGL 102 or 108 First-Year Composition | 3 | ENGL 101 or ENGL 107 |
| General Education: Exploring Perspectives (Artist) | 3 | |
| Semester Total | | 17 |
| 3rd Semester | | |
| CE 210 Engineering Graphics - Fall Only | 1 | |
| CE 214 Statics | 3 | PHYS 141 or 161H; MATH 129 |
| MATH 223 Vector Calculus | 4 | MATH 129 with C or higher |
| PHYS 241 Introductory Electricity and Magnetism or PHYS 261H or *CHEM152 Chemical Thinking II or CHEM 162/164 | 4 | <u>PHYS 241 or 261H</u> ; PHYS 141 or 140 or 161H, MATH 129; <u>CHEM 152 or CHEM 162/164</u> ; CHEM 151 or 141/143 or 161/163 and Appropriate Math Placement |
| General Education: Exploring Perspectives (Humanist) | 3 | |
| †General Education: Building Connections | 3 | |
| Semester Total | | 18 |
| 4th Semester | | |
| CE 215 Mechanics of Solids | 3 | CE 214 |
| CE 218 Mechanics of Fluids | 3 | CE 214 or ENGR 211C (EEN majors only) |
| MATH 254 Intro to Ordinary Differential Equations | 3 | MATH 129 or 223 with C or higher |
| CE 251 Elementary Surveying | 3 | Pre/Co-requisite CE 210; Dept. consent |
| CE 260 Computer Programming in Civil Engineering – Spring Only | 1 | MATH 223 |
| General Education: Exploring Perspectives (Social Scientist) | 3 | |
| Semester Total | | 16 |

*Each of the following foundational science courses satisfies the requirements for General Education: Exploring Perspectives (Natural Scientist): CHEM 151 or 152 or 161 or 162; or PHYS 141 or 161H.

Advanced Standing is required for 300- and 400-level engineering courses (see your academic advisor for details).

| Course Number and Title | Units | Comments |
|---------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------|
| 5th Semester | | |
| **CE 301 Engineering Communications | 3 | |
| CE 303 Numerical Analysis for Civil Engineers | 3 | |
| CE 310 Probability and Statistics in Civil Engineering | 3 | |
| CE 333 Elementary Structural Analysis | 3 | |
| CE 363 Transport Engineering and Pavement Design | 4 | |
| Semester Total | 16 | |
| 6th Semester | | |
| CE 323 Hydraulic Engineering and Design | 4 | |
| CE 335 Structural Design in Concrete or CE Technical Elective | 3 | |
| CE 343 Soil Mechanics | 3 | |
| CE 381 Construction Engineering Management or CE Technical Elective | 3 | |
| CE Lab Requirement – CE 329 or 349 or 389 | 1 | Consult major advisor for availability |
| ENGR 211P & I - Engineering Science Elective Modules | 2 | |
| Semester Total | 16 | |
| 7th Semester | | |
| CE 408A Issues in Civil Engineering Practice | 3 | |
| CE 334 Structural Design in Steel or CE Technical Elective | 3 | |
| CE 440 Foundation Engineering | 3 | |
| CHEE 270 or CE Technical Elective | 3 | |
| CE Technical Elective | 3 | |
| CE Lab Requirement – CE 329 or 349 or 389 | 1 | Consult major advisor for availability |
| Semester Total | 16 | |
| 8th Semester | | |
| CE 408B Civil Engineering Senior Capstone Design | 3 | |
| CE Technical Elective | 3 | |
| CE Technical Elective | 3 | |
| CE Lab Requirement – CE 329 or 349 or 389 | 1 | Consult major advisor for availability |
| CE Technical Elective | 1-3 | Dependent on selection of General Education course, consult with major advisor for course approval |
| †General Education: Building Connections | 3 | |
| UNIV 301 General Education Portfolio | 1 | |
| Semester Total | 15/17 | |

†Students should work closely with their academic advisor to select General Education: Building Connections courses; some course work in the major, such as some Technical Elective courses, may also fulfill General Education: Building Connections requirements.

**CE 301 will fulfill a General Education Building Connections course.